



# **Summary of Proposed ADs**

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**Cessna 400 Series Wing Spar Proposed AD Public Meeting**  
**Dulles Hilton Airport**  
**March 3-4, 2004**

# Outline

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- ① Introduction
- ① FAA AD Process
- ① Existing ADs
- ① Proposed ADs
- ① General Wing Strap Installation
- ① Cost Estimate
- ① Summary & Questions

# AD Process – Unsafe Condition

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- ① **14CFR Part 39 is the legal framework for the FAA's AD system**
- ① **14CFR Part 39 requires for an AD to be issued:**
  - ① FAA has to find that an unsafe condition exists in the product
  - ① The unsafe condition is likely to exist or develop in other products of the same type design
- ① **AD Standard Procedure:**
  - ① Issue a Noticed of Proposed Rule Making
  - ① Obtain public comments on the proposed rule
  - ① Evaluate those comments
  - ① Make a decision on proceeding with the Final Rule AD



# Existing ADs

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## ① AD 79-10-15 R2: 401/A/B, 402A/B, 411/A

- ① Requires repetitive inspections of the front lower wing spar cap every 400 hrs

- ① Surface eddy current to detect cracks under skin

- ① Requires repetitive inspections of the wing attach fittings every 1000 hrs

- ① Surface eddy current to detect cracks at two locations

## ① AD 2000-23-01: 402C

- ① Requires repetitive inspections of lower wing spar cap every 110 hrs for 402C only

- ① Visual inspection of front, aft, and auxiliary wing spars for cracks

# Proposed ADs Timeline

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- ① Airworthiness Concern Sheet – Aug. 2, 2002
- ① NPRMs Issued - May 9, 2003
- ① Comment Periods Closed – Aug. 8, 2003
- ① Extend Comment Periods Issued - July 28, 2003
- ① Comment Periods Closed – Sept. 8, 2003
- ① Supplemental NPRMs Issued – Sept. 26, 2003
- ① Comment Periods Closed – Dec. 8, 2003
- ① Public Meeting Notice Issued – Jan. 15, 2004
  - ① FAA Public Meeting – March 3-4, 2004
- ① Comment Periods Close – April 5, 2004

# Proposed ADs

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- ① Docket: 2002-CE-05-AD
- ① Unsafe condition: Fatigue cracks in wing spars require wing spar cap repair or replacement
- ① Proposed Action:
  - ① Terminates wing spar inspections of AD 79-10-15 R2
  - ① Maintain Wing attach fitting inspections of AD 79-10-15 R2 (Area “A” and “B”)
  - ① Requires Cessna Service Bulletin wing spar inspections
  - ① Requires installation of Cessna Service Kits
  - ① Requires repetitive inspections of the installed strap

# Proposed ADs

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- ① Docket: 2002-CE-57-AD
- ① Unsafe condition: Fatigue cracks in wing spars require wing spar cap repair or replacement
- ① Proposed Action:
  - ① Terminates wing spar inspections of AD 2000-23-01
  - ① Requires Cessna Service Bulletin wing spar inspections
  - ① Requires installation of Cessna Service Kits

# Errors in Proposed ADs

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## ❶ Docket: 2002-CE-05-AD

- ❶ Cessna Model 401/A/B and 402/A/B

- ❶ Compliance Time: 6,500 hrs TIS or within 200 hrs/12 months whichever occurs LATER

## ❶ Docket: 2002-CE-57-AD

- ❶ Cessna Model 402C and 414A (S/N 201-1212)

- ❶ Compliance Time: 14,500 hrs TIS or within 500 hrs/12 months whichever occurs LATER



# Model Applicability

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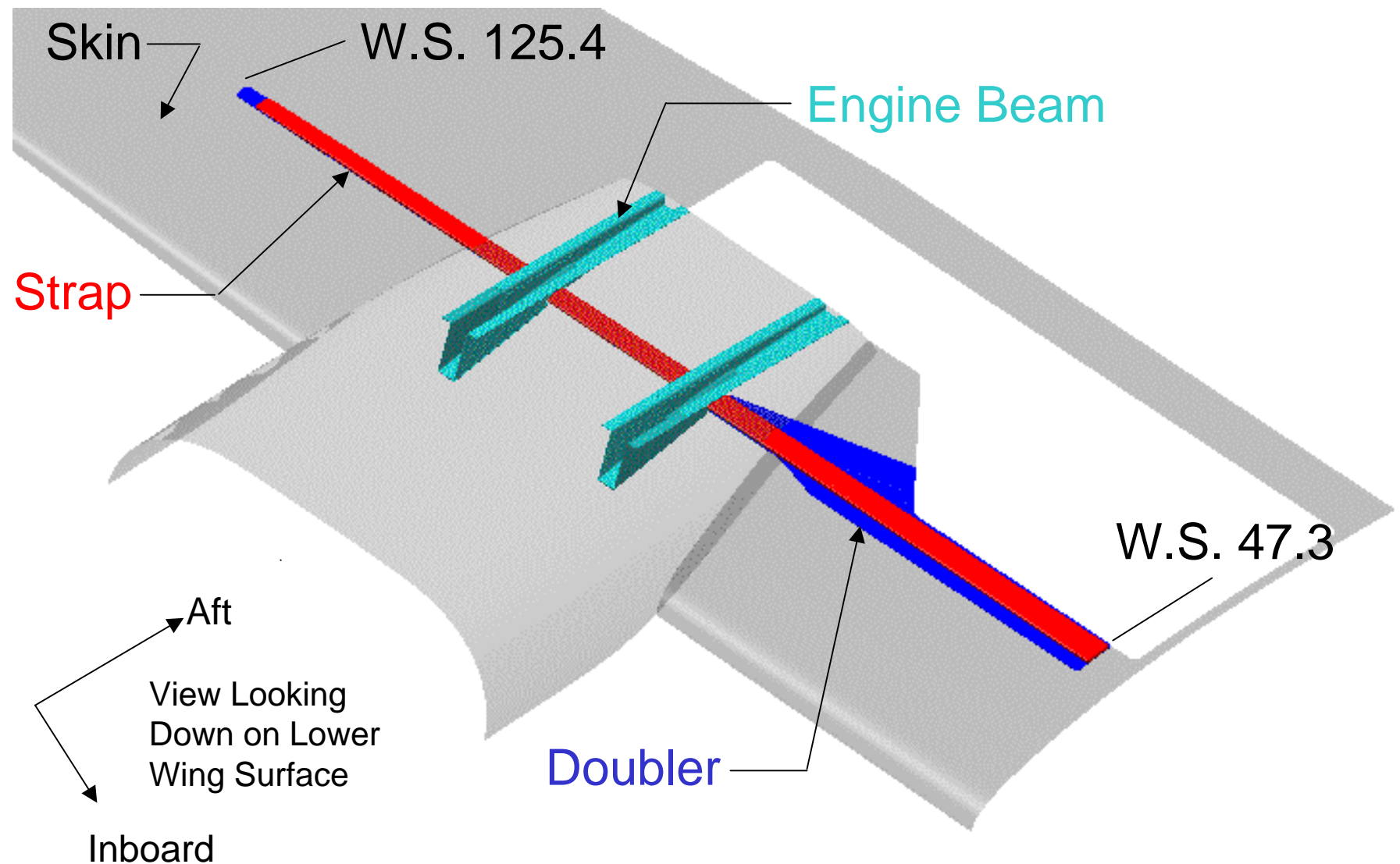
Model	Service Bulletins	NPRM
401, 401A, 401B, 402, 402A, 402B	MEB 01-6 (Service Kit SK 402-46)	2002-CE-05-AD
411, 411A	MEB 01-7 (Service Kit SK 411-59 )	2002-CE-05-AD
402C, 414A	MEB 02-5 (Service Kit SK 402-47)	2002-CE-57-AD

# NPRM Compliance Requirements



<b>Model</b>	<b>Installation threshold</b>	<b>Inspection to be Terminated</b>	<b>Strap Inspection Threshold</b>
401, 401A, 401B, 402, 402A, 402B	6,500 flight hrs.	AD 79-10-15R2 (Lwr spar cap only)	19,900 flight hours after installation
411, 411A	5,500 flight hrs.	AD 79-10-15R2 (Lwr spar cap only)	19,900 flight hours after installation
402C	14,500 flight hrs.	AD 2000-23-01	(TBD w/ future AD)
414A (units 1-200)	8,500 flight hrs.	None	(TBD w/ future AD)
414A (Units 201++)	14,500 flight hrs.	None	(TBD w/ future AD)

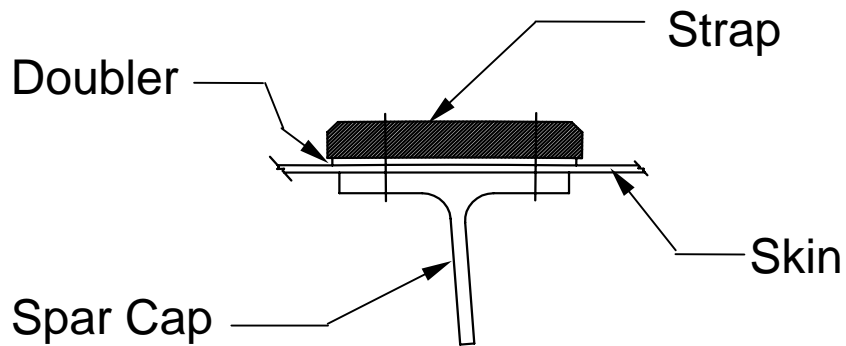
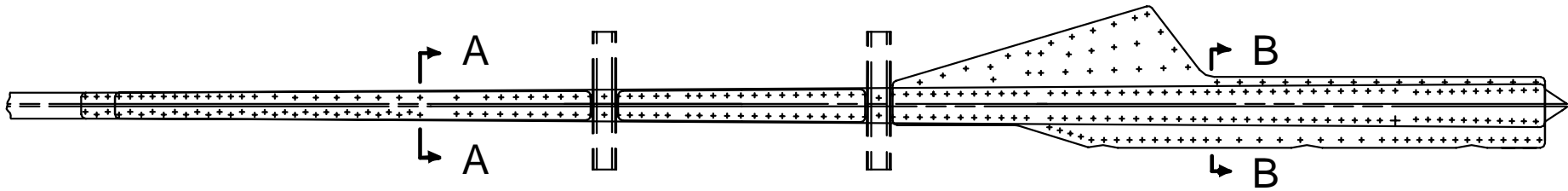
# Model 401/402/411 Wing Strap Layout



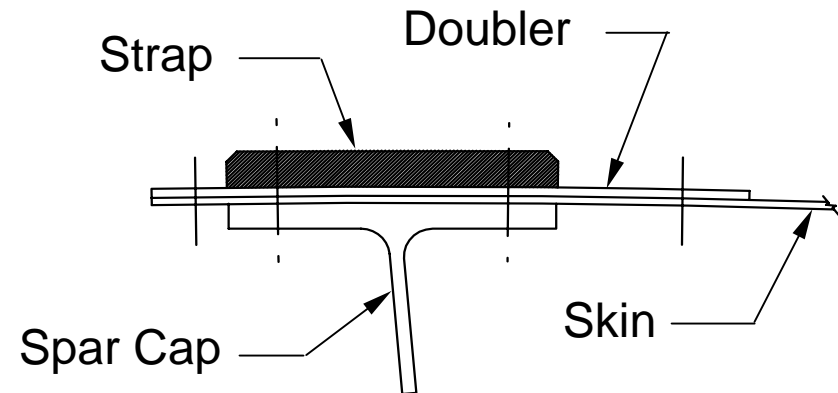
# Model 401/402/411 Wing Strap Cross Sections



Aft  
↑  
Inbd  
→

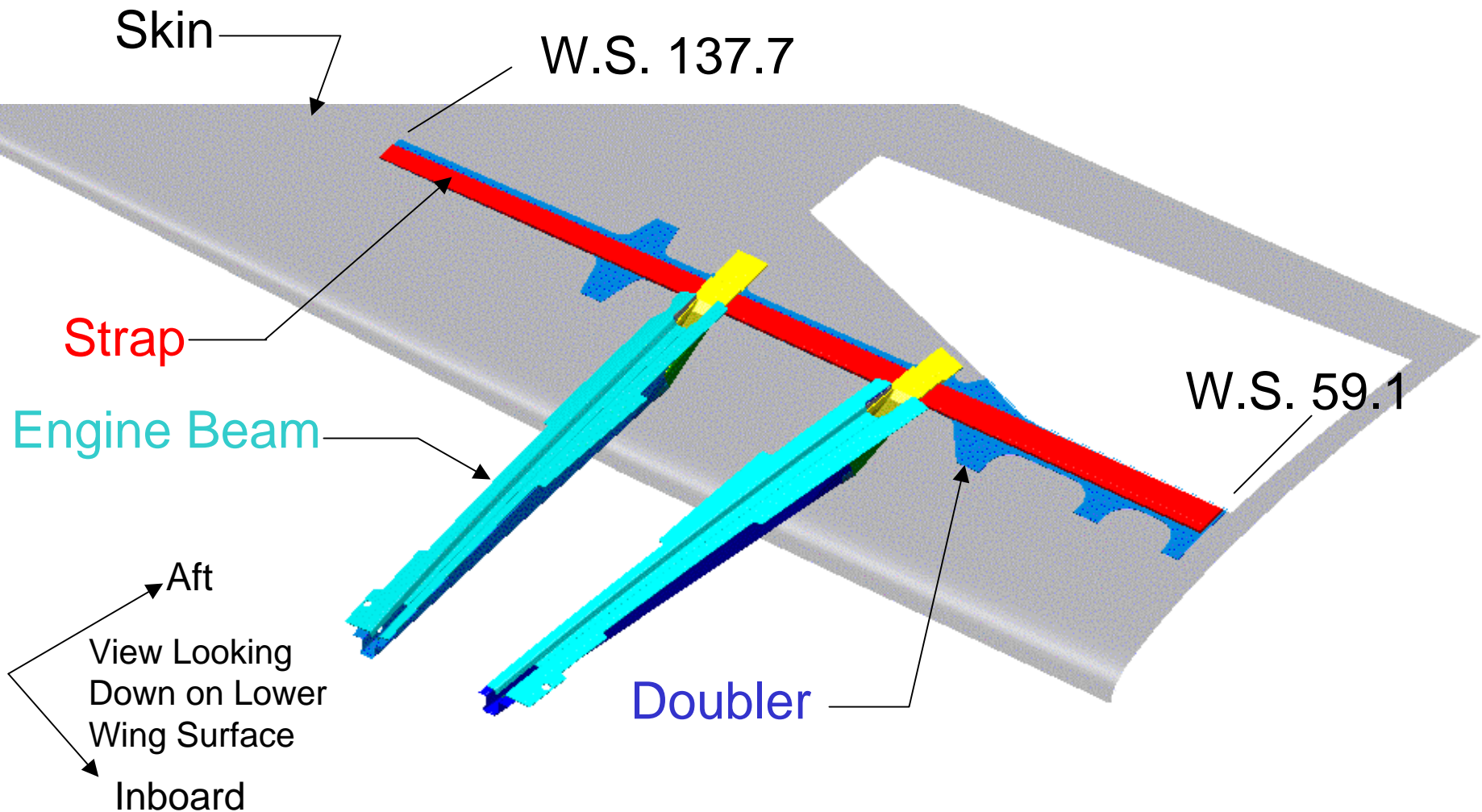


Section A-A



Section B-B

# Model 402C/414A Wing Strap Layout

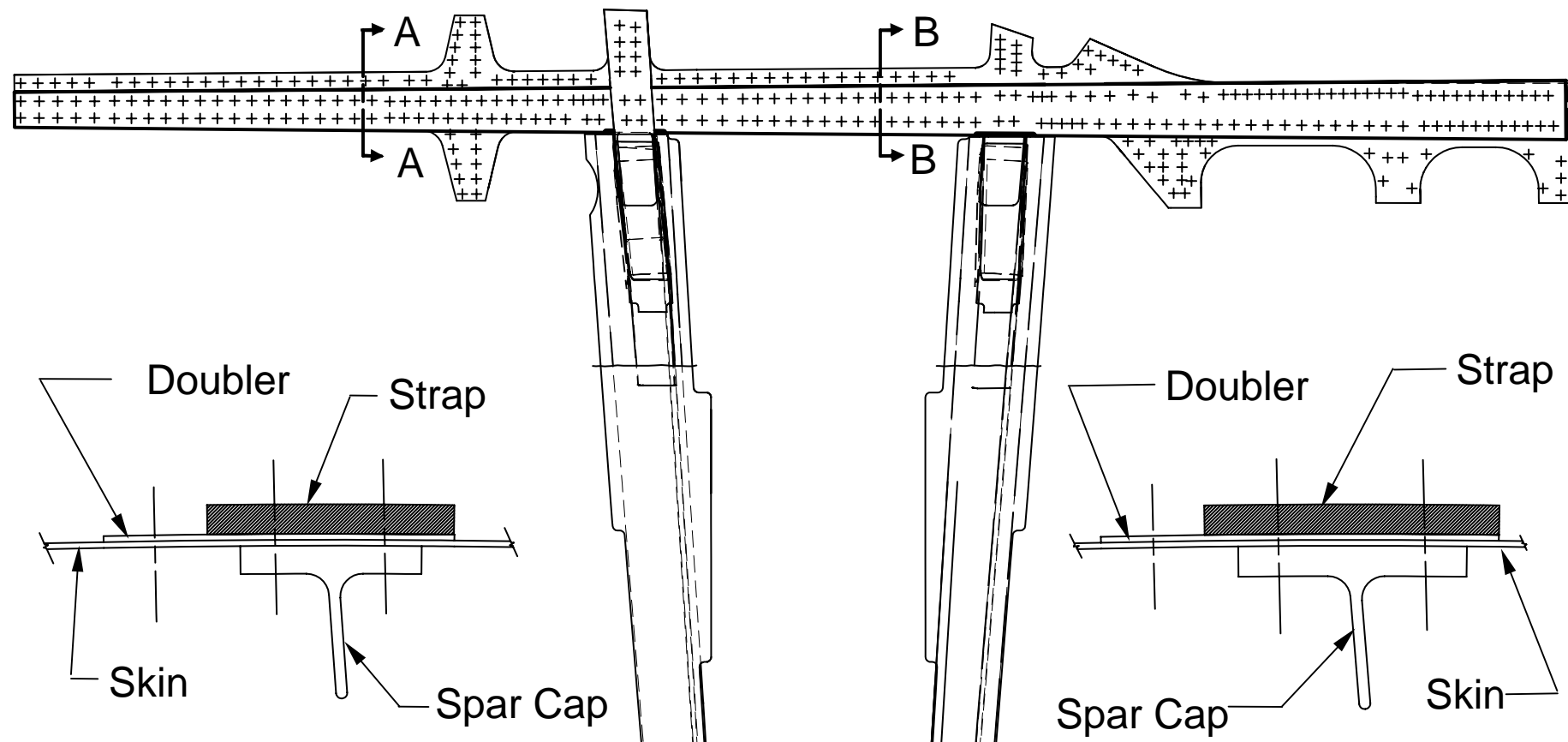


# Model 402C/414A Wing Strap

## Cross Sections



Aft  
Inbd



Section A-A

Section B-B

# Service Bulletin Overview

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- ① Prep Airplane – 90+ hours
  - ① Jack and support airplane
  - ① Scrub nacelle clean
  - ① Drain fuel
  - ① Remove panels and gears
  - ① Remove rivets and peel back skins
  - ① Remove tank sealant
  - ① Cut access panels in firewall

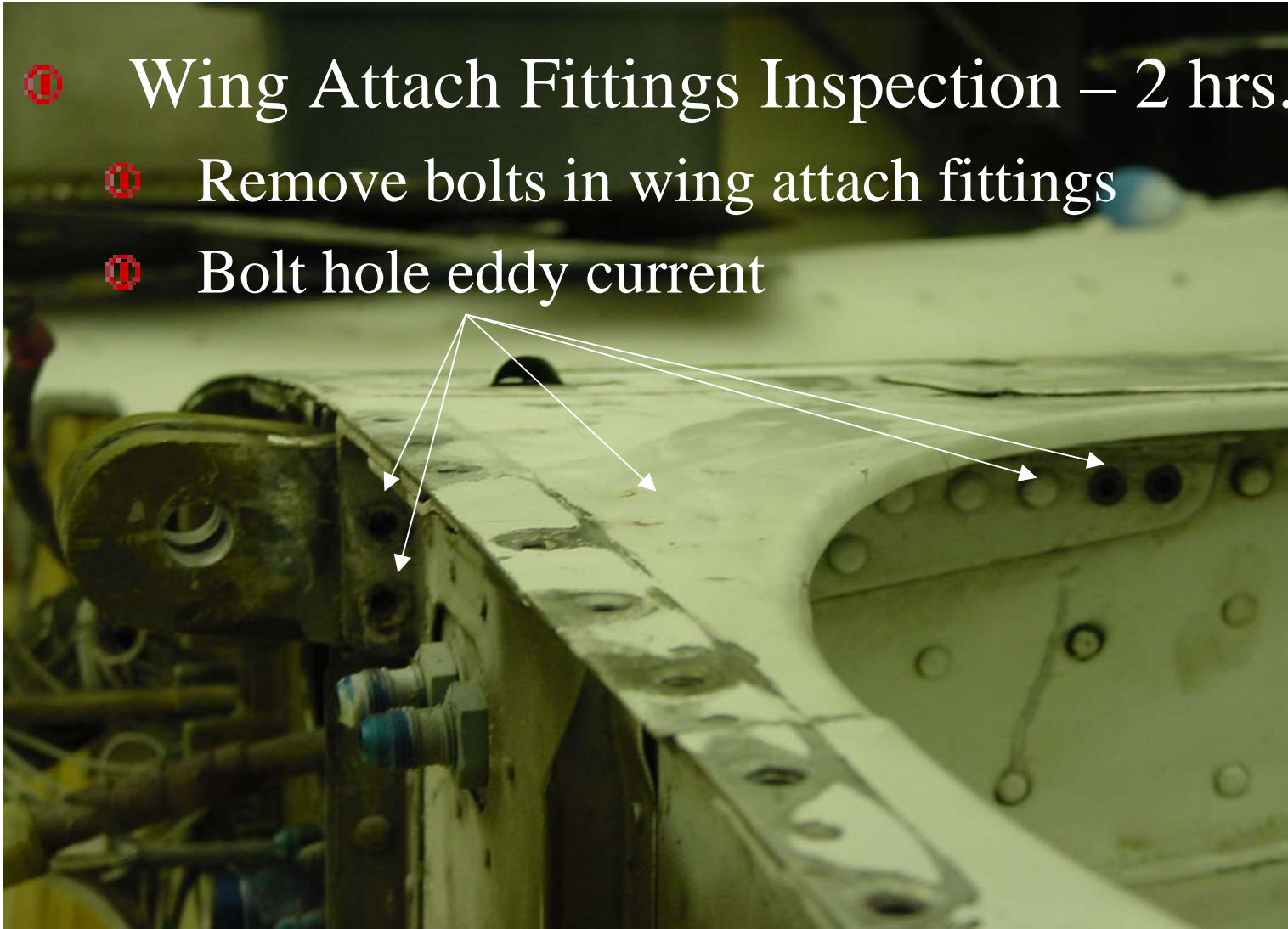




# Service Bulletin Overview



- ① Wing Attach Fittings Inspection – 2 hrs.
- ① Remove bolts in wing attach fittings
- ① Bolt hole eddy current





# Service Bulletin Overview



① Lower Spar Cap Inspection – 12 hrs.

- ① Model 401/A/B, 402/A/B, & 411/A – 174 fasteners, W.S. 47 through W.S. 125
- ① Model 402C & 414A – 191 fasteners, W.S. 59 through W.S. 137

# Service Bulletin Overview

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- ① Install Spar Strap and Doubler – 150+ hrs.
- ① Modify Old Engine Beam & Install New Fittings and Beam Doublers – 100+ hrs.
- ① Seal Wings and Firewalls and Paint Strap – 8 hrs.
- ① Modify and Install Both Bottom Aft Nacelle Skins – 20 hrs.
- ① Modify and Install Both Exhaust Pipe Heat Shields – 3 hrs.
- ① Reinstall all components – 50+ hrs.

# Cost Estimate



Model	Labor Cost (per airplane)	Parts Cost (per airplane)	Total Cost (per airplane)
401, 401A, 401B, 402, 402A, 402B	\$29,100	\$2,933	\$32,033
411, 411A	\$29,100	\$2,933	\$32,033
402C, 414A	\$29,100	\$11,245	\$40,345

Note: Parts Cost quoted on 2/27/04

Labor Cost based on \$65 per man hr.

# Summary

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- ① Identified the unsafe condition
- ① Existing ADs Overview
- ① Proposed ADs Overview
- ① Cessna Service Bulletins Overview

# Questions?

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